

NUTSHELL SUMMARY OF
EPA'S NATIONAL SURVEY OF OIL STORAGE FACILITIES

ABSTRACT

In April 1995, EPA conducted a national survey of oil storage facilities potentially subject to its Spill Prevention, Control and Countermeasures (SPCC) regulation (40 CFR Part 112). The purpose of the survey was to answer five specific questions: (1) How many facilities are regulated by EPA's SPCC program; (2) What types of facilities does the SPCC Program regulate; (3) What do these facilities look like; (4) Which facilities pose the greatest oil spill risk; and (5) How effective is the SPCC Program in reducing oil spill risk? This nutshell summary briefly discusses EPA's analysis of the survey data.

BACKGROUND

Under the Clean Water Act (33 USC 1251 et seq.) and the Oil Pollution Act of 1990 (33 U.S.C. 2701 et seq.), EPA is responsible for protecting the nation's waters from the adverse effects of oil spills. The SPCC regulation, which implements section 311(j) of the Clean Water Act, is designed to prevent discharges of oil from facilities and to contain such discharges when they occur. The regulation applies to "onshore, non-transportation-related facilities" that could reasonably be expected to discharge oil into navigable waters, when such facilities have: (1) an aboveground oil storage capacity of more than 660 gallons in a single container; (2) a total aboveground oil storage capacity of more than 1320 gallons in multiple containers; or (3) a total underground oil storage capacity of more than 42,000 gallons.

SURVEY PURPOSE AND DESIGN

The survey was designed to collect comprehensive statistical information about the community of facilities regulated by EPA's SPCC regulation. To accomplish this, EPA randomly selected 30,000 recipient facilities in 23 different industries deemed likely to include facilities regulated by EPA.

The survey gathered specific facility information, such as the size, type, and location of the facility; the size, number, and type of its storage tanks; its spill prevention systems, and the number and size of its oil discharges.

HOW MANY FACILITIES ARE REGULATED BY EPA'S SPCC PROGRAM?

To develop a national estimate, EPA applied standard statistical techniques to the data obtained by the survey. The approach for calculating the survey sample was designed to allow EPA to make statements about surveyed facilities to within 10 percent of their true value and within the 90-percent confidence interval.

EPA compared the survey results with previous government and industry studies to calculate its "1996 Adjusted National Estimate." This analysis indicates that approximately 438,000 facilities are regulated by the SPCC Program.

WHAT TYPES OF FACILITIES DOES THE SPCC PROGRAM REGULATE?

The survey data indicate that two industries (Farms and Oil Production) constitute about 80% of the SPCC-regulated universe. Manufacturing, Transportation, and Gasoline Stations/Vehicle Fueling constitute the next 12% of facilities. All other industries combined make up the remaining 8%.

It is important to note that while farms may comprise a sizable portion of the SPCC-regulated universe, this represents only a small percentage (8%) of the farms in the United States.

WHAT DO THESE FACILITIES LOOK LIKE?

EPA's data indicate that facilities in different industry sectors vary dramatically in Total Storage Capacity, Number of Tanks, and Annual Throughput Volume.

Farms in general have smaller storage capacity, fewer tanks, and lower throughput levels than other types of facilities.

WHAT FACILITIES POSE THE GREATEST OIL SPILL RISK?

EPA sought to investigate whether statistically significant relationships exist between the characteristics of oil storage facilities and their propensity to spill oil. The results of that analysis indicate that facilities with greater oil storage capacity are likely to have a greater number of oil spills, larger volumes of oil spilled, and greater cleanup costs than facilities with smaller capacity. Similar linkages were found when facilities with a greater number of tanks, and greater annual throughput were examined. The results of EPA's multivariate regression analyses indicate a strong positive correlation between these variables. Accordingly, as Total Storage Capacity, Number of Tanks, and Annual Throughput increase, so does the propensity to spill, the severity of spills, and the attendant costs of cleanup.

EPA examined a host of other variables, such as Type of Business (conducted at the facility), Average Age of Tanks, Annual Number of Transfers, and Annual Average Tank Turnover, each of which did not emerge as strongly related to spill propensity when controlling for the above three variables.

HOW EFFECTIVE IS THE SPCC PROGRAM IN REDUCING OIL SPILL RISK?

EPA's analysis revealed that compliance with the SPCC provisions reduces the number of spills, spill volume and the amount of oil that migrates outside of the facility's boundaries. It also indicated that compliance with one SPCC provision serves as a general indicator of a facility's awareness of the importance of other spill prevention and control measures.

However, the survey also revealed that a large proportion of facilities that meet the SPCC regulatory requirements may not be in full compliance.

OBTAINING ADDITIONAL INFORMATION

EPA plans to make the complete survey results available to the public on the Internet by the end of October, 1996. The Oil Spill Center Home Page is located at the following address:

www.epa.gov/superfund/oerr/er/oilspill/oilhome.htm.

EPA also plans to distribute the survey results via its new "fax-on-demand" document system, which is scheduled to be operational by the end of October, 1996. The fax-on-demand phone number is (202)651-2062.